Remarks/Arguments:

By this Amendment, Applicants have amended claims 1, 3, and 10. Claims 1-16 are pending.

Claim Rejections Under Section 102(b)

Claims 1-4, 10, and 11 stand rejected under 35 USC §102(b) as being anticipated by Wellbourn. Based on this Amendment, Applicants respectfully traverse the Section 102(b) rejection.

Claims 1, 3, and 10 are independent claims. Claim 2 is dependent on claim 1. Claims 4-9 are either directly or indirectly dependent on claim 3. Claims 11-16 are either directly or indirectly dependent on claim 10.

Turning first to claim 1, it is directed to a component mounting method for placing and soldering a component on a board. The method defined by claim 1 includes the following steps:

- **printing solder on electrodes on the board so as to shift and create a predetermined offset of the solder from a center position on at least one of the electrodes on the board,** the solder for securing a component terminal of the component when bonding.

- placing the component after solder printing so that a placement position is shifted by the offset with respect to the center position of the electrode.

- moving the component toward the center position of the electrode by heating the board to melt the solder after placing the component, and

- securing the component terminal onto the electrode by solidifying the solder after moving the component.

The component mounting method defined by claim 1 is patentably distinguished from the Wellbourn Patent at least based on the step of printing solder on electrodes on the board so

as to shift and create a predetermined offset of the solder from a center position on at least one of the electrodes of the board (hereinafter referred to as the "Offset Feature" of Applicants' claimed invention). Simply put, it is Applicants' contention that the component mounting method defined by claim 1 is patentably distinguished from the Wellbourn Patent because Wellbourn does not teach or suggest the Offset Feature of Applicants' claimed invention.

The subject application relates in general to a mounting method for mounting a plurality of micro-components at narrow pitches on a board. Typically when the micro-components are mounted at narrow pitches, interference occurs between the mounted component and a nozzle which holds the component as it is being mounted on the board. In addition, solder bridges tend to occur between solder portions printed on adjacent electrodes before placing the components on the board. Applicants claimed component mounting method overcomes these disadvantages heretofore found in conventional mounting methods.

Applicants overcome the problems found in the conventional mounting methods by applying solder to at least one electrode of adjacent electrodes in a direction where the solder is further separated from the adjacent electrode. That is to say, the solder is printed at a predetermined offset from a center position. Then the component is mounted at the solder printing position at the offset without any interference. By this method, space is provided between adjacent electrodes in the mounting of components. After the components are mounted, the solder is then melted by heating the board and the solder moves along the surfaces of the electrodes and thereby is properly aligned at their correct position. This method includes the use of the Offset Feature of Applicants' claimed invention. The Offse Feature is neither taught nor suggested in the Wellbourn Patent.

The Wellbourn Patent concerns a method for connecting two components with functional parts in a predetermined alignment such as a semiconductor laser and mother board including forming the laser by processing in which a radiation outlet and alignment structure are provided in a predetermined position with respect to each other. Also formed on the mother board is a waveguide and alignment structure. The laser is mounted on the mother board in a generally aligned position, providing solder between metal pads on the laser and mother board and utilizing the surface tension of the molten metal extending between the pads to move the laser into an accurately aligned position on the mother board.

Applicants note that the method defined by the Wellbourn Patent as shown in Figures 2 and 3, shows solder bumps 26 which are printed on electrodes on a mother board 10 and on a semiconductor laser 11. But these solder bumps 26 are not printed at a "predetermined offset" as defined in Applicants' claim 1. Simply put, the Wellbourn patent lacks any teaching or suggestion of the Offset Feature of Applicants' claimed invention. Applicants note that in the method of Wellbourn, a force is applied to the solder bumps of the mother board 10 and the semiconductor laser 11 by melting the solder bumps so that they are placed in a final position. But the Wellbourn Patent does not consider the step of Applicants' claimed invention of printing the solder on at least one electrode at a predetermined offset of the solder from a center position as set forth in Applicants' claimed invention. Lacking this Offset Feature, the Wellbourn Patent can neither anticipate nor render obvious the component mounting method of claim 1, as well as that of dependent claim 2.

Applicants respectfully submit that independent claims 3 and 10 also include the Offset Feature. Therefore all pending claims include the Offset Feature and are thereby patentably distinguished from the Wellbourn Patent.

Based on the foregoing remarks, Applicants request that the Section 102(b) rejection be withdrawn as to claims 1-4, 10 and 11, and that these claims be found to be in condition for allowance.

Allowable Subject Matter

Applicants acknowledge with appreciation the Examiner's finding that claims 5-9 and 12-16 include allowable subject matter and would be allowed if rewritten in independent form. Applicants submit that there is no need to amend these claims since they are dependent on independent claims 3 and 10 which are themselves in condition for allowance.

In view of the foregoing remarks and amendments, Applicants respectfully submit that claims 1-16 are in condition for allowance. Reconsideration and allowance of all pending claims are respectfully requested.

Respectfully submitted,

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